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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/702,889	11/01/2000	Makoto Onozawa	122.1422	8796

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EXAMINER

ALPHONSE, FRITZ

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 07/08/2002

3

Please find below and/or attached an Office communication concerning this application or proceeding.

TR

Office Action Summary

Application No.
09/702,889

Applicant(s)
Onozawa et al.

Examiner
Fritz Alphonse

Art Unit
2675



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Nov 1, 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2 6) ☐ Other:

Art Unit: 2675

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 1 recites the limitation "the first electrodes and the second electrodes arranged adjacently by turns, and the address electrodes ...the said first and second electrodes" in lines 3-7.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai (U.S. Pat. No. 6,011,355) in view of Makino (U.S. Pat. No. 6,160,530).

As to claim 1, Nagai (figs. 16 and 24) teaches about a plasma display device comprising a plasma display equipped with first electrodes (X-Xn) and second electrodes (Y1-Yn) arranged

Art Unit: 2675

adjacently by turns, and the address electrodes (106) extending in the direction that runs at a right angle to the direction the said first and second electrodes extend, an X sustaining circuit (105) that supplies sustaining pulses to the said first electrodes, and a Y sustaining circuit (103) that supplies sustaining pulses to the said second electrodes.

Nagai does not teach about phase adjusting circuits that adjust the timing of the changing edge of a sustaining pulse.

However, in the same field of endeavor, Makino discloses a method for driving a Plasma display, wherein phase adjusting circuits are used in order to adjust the timing of the changing edge of the sustaining pulse (figs. 10- 11; col. 12, lines 34-43).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nagai by specifically providing an adjustment circuit, as disclosed by Makino. Doing so would have been a desire to elevate the luminance efficiency in the sustain discharge, thereby to elevate the display contrast ratio.

As to claim 2, Nagai teaches about a plasma display apparatus, wherein the said X sustaining circuit and the said Y sustaining circuit include power recovery circuits (fig. 1; col. 8, lines 27-36) each of which has a resonant circuit formed with a display capacitor of the said plasma display panel (col. 7, lines 63-67), recovers energy when the application of the said sustaining pulse is released and uses the recovered energy for the next application of the said sustaining pulses (col.7, lines 29-62).

Art Unit: 2675

As to claim 3, Nagai (figs. 16 and 24) teaches about a plasma display apparatus, wherein the said X sustaining circuit (105) and the said Y sustaining circuit (103) comprise the first and the second output devices connected between a path through which the said sustaining pulses are supplied and a high voltage power source line (102) and between the path and a low voltage power source line, respectively. Nagai teaches about power recovery circuit to the state in which power is supplied from the said power recovery circuit to the said path (col. 8, lines 28-36).

Nagai does not teach about phase adjusting circuits for adjusting the time difference between turning on of a third output device and that of the said first output device. However, Makino (fig. 11) shows a phase adjusting circuits for adjusting the time difference between turning on of output devices. See the motivation above.

As to claim 4, the claim has substantially the limitations of claim 3, therefore, it is analyzed as previously discussed in claim 3 above.

As to claim 5, Nagai (figs. 16 and 24) teaches about a plasma display apparatus, wherein the plasma display panel forms the first display line between one side of the said second electrode and the adjacent said first electrode, the second display line between the other side of the said second electrode and the adjacent said first electrode; the said X sustaining circuit (105) is equipped with a first X sustaining circuit that supplies the said sustaining pulse to an odd-numbered electrode of the said first electrodes, and a second X sustaining circuit that supplies the said sustaining pulse to

Art Unit: 2675

an even-numbered electrode of the said first electrodes; and the said Y sustaining circuit (103) is equipped with a first Y sustaining circuit that supplies the said sustaining pulse to an odd-numbered electrode of the said second electrodes, and a second Y sustaining circuit that supplies the said sustaining pulse to an even-numbered electrode of the said second electrodes (col. 17, lines 22-42).

As to claims 6-7, Nagai does not teach teaches about a plasma display apparatus wherein the difference in rising or falling timing between the sustaining pulse output by the said second X sustaining circuit and that output by the said first or the second Y sustaining circuit are adjusted so that the differences of the timings are within a predetermined range of ± 30 ns.

However, this is very obvious. It would have been obvious to one of ordinary skill in the art at the time the invention was made to maintain the differences of the timings within a predetermined range of ± 30 ns. The motivation would have been a desire to obtain a display system with high quality image.

As to claim 8, the claim has substantially the limitations of claim 1, therefore, it is analyzed as previously discussed in claim 1 above.

As to claims 9-10, the claims differ from claims 1-3 only in that the preamble "a manufacturing method of a plasma display apparatus" is added. However, claims 9-10 have substantially the limitations of claims 1-3. Therefore, they are analyzed as previously discussed in claim 1-3 above.

Art Unit: 2675

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ryan (U.S. Pat. No. 4,067,047) discloses a circuit and method for generating gray scale in gaseous discharge panels.

Kim (U.S. Pat. No. 5,369,338) discloses a structure of plasma display panel and a driving method.

Masuda et al (U.S. Pat. No. 6,011,411) discloses a display panel driving method and discharge type display apparatus.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703)308-6606 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fritz Alphonse whose telephone number is (703) 308-8534.

Art Unit: 2675

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached on (703) 305-9720.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.


F. Alphonse

Art Unit: 2675

June 27, 2002


CHANH NGUYEN
PRIMARY EXAMINER